

## REMARKS

At section 2 of the Office Action, the Examiner refers to joint inventors. In fact, the current application has only one inventor: Ghani Abbas.

The Examiner rejects independent claims 137, 155, 159, 163 and 170-172 and other claims as being unpatentable over ITU-T G.707 in view of U.S. Patent No. 5,793,760 to Chopping. It is submitted that the Examiner has not accurately portrayed the teaching of G.707.

In particular, the Examiner states that G.707 discloses converting a first concatenated data signal (C-4-Xc) into a second, virtually concatenated information structure (VC-4-XC). However, this is not supported by G.707. The second concatenated structure (VC-4-XC) identified by the Examiner is not a *virtually* concatenated data structure but is a merely a second form of *contiguously* concatenated data structure.

The nomenclature of G.707 works as follows. A *contiguously* concatenated data structure is identified according to the following nomenclature:

“C-4-Xc” is a contiguously concatenated container, viz:

“C” indicates a Container

“-4-” indicates container size 4

“X” indicates X number of containers are concatenated together

“c” indicates *Contiguous* Concatenation

“VC-4-Xc” is a contiguously concatenated *virtual* container, viz:

“VC” indicates a Virtual Container

“-4-” indicates container size 4

“X” indicates X number of containers are concatenated together

“c” indicates *Contiguous* Concatenation

A *virtually* concatenated data structure is identified according to the following nomenclature:

“C-4-Xv” is a virtually concatenated container, viz:

“C” indicates a Container

“-4-” indicates container size 4

“X” indicates X number of containers are concatenated together

“v” indicates *Virtual* Concatenation

“VC-4-Xv” is a virtually concatenated virtual container, viz:

“VC” indicates a Virtual Container

“-4-” indicates container size 4

“X” indicates X number of containers are concatenated together

“v” indicates *Virtual* Concatenation

The section of G.707 referred to by the Examiner discloses the following data structures: C-4-Xc and VC-4-Xc, i.e., a *contiguously* concatenated container and a *contiguously* concatenated virtual container. G.707 does not disclose the conversion, as claimed by the Examiner, to a virtually concatenated data structure.

No teaching is given anywhere in G.707 of conversion between a contiguously concatenated data structure and a virtually concatenated data structure. No teaching is given anywhere in G.707 as to how such a conversion might be achieved. In particular, it is established that G.707 does not disclose the claimed use of a part of the path overhead to indicate a sequence of frames in the virtually concatenated information structure and the Examiner at page 12 of the current Office Action acknowledges this.

Turning to the disclosure of Chopping, the Examiner refers to Fig. 14.

Fig. 14 is described at col. 2 as showing the relationship between the Z4 format and H4 (Multiframe Indicator) sequence. Fig. 14 is described in more detail, in combination with the circuit of Fig. 13, at col. 9, line 34 onwards. Fig. 13 shows a so-called “consolidation point” whose function is to combine a number of partially loaded virtual containers (VC 3 or VC 4). Chopping proposes using the Z4 path overhead byte for control of this combiner. At col. 9, lines 62-64, Chopping states that “the multiframe is defined in the normal manner by the H4 byte of the POH”. Hence, Chopping is teaching the conventional use of the H4 byte, as set out in G.707.

As set out in the Applicant’s response dated January 5, 2004 (see page 2), G.707 teaches the use of the H4 byte to address the problem of distributing path overhead information across a multiframe of a lower-order virtual container (i.e., VC-1 and VC-2 – see Fig. 8-13/G.707, p. 53). The problem with the lower-order virtual containers VC-1 and VC-2 is that they are too small to accommodate all of the overhead information. Hence, there is a need to distribute overhead information over a set of consecutive frames: the so-called “multiframe”. The H4 byte allows receiving equipment to identify which part of the overhead information is present in the current frame by cycling through the values 0-3, as illustrated in Fig. 8-13/G.707. G.707 teaches nothing about frame sequence of virtual concatenated information structures.

It is clear from Chopping that the H4 byte is used in a similar way to that defined in G.707. The object of Chopping is to carry one sequence of control information in a 48 multiframe cycle. Chopping uses the H4 byte to define the required multiframe loop of 48 frames (col. 10, line 17). The VC-4 of G.707, referred to by the Examiner, is a higher-order virtual container that does not use H4 multiframes.

In summary, the system of Chopping needs to carry a sequence of information (the control information referred to at col. 9, line 60) within a restricted number of bits in a path overhead

- (i.e., in the Z4 byte). The solution used by Chopping is that set out in G.707, i.e., in slicing the information into small parts and sending successive parts of the information in successive instances of the path overhead (see Chopping, col. 9, lines 59-62). As set out in G.707, the H4 byte is incremented to indicate which part of the information is present in each instance of the path overhead.

It would therefore appear that the teaching of Chopping on H4 accurately follows that of G.707. Chopping is concerned with a novel use of the Z4 byte but adds nothing to the teaching of G.707 that has any relevance to the present invention. It is contended that there is nothing in Chopping that would lead the skilled reader, aware of the conventional solution of contiguously concatenated data structures to reject the established technology in favor of a virtually concatenated data structure in which a part of the path overhead is dedicated to indicating the sequence of virtually concatenated information structures being transferred across a data communications network.

Petition is hereby made for a two-month extension of the period to respond to the outstanding Official Action to November 10, 2004. A check in the amount of \$430.00, as the Petition fee, is enclosed herewith. If there are any additional charges, or any overpayment, in connection with the filing of the response, the Commissioner is hereby authorized to charge any such deficiency, or credit any such overpayment, to Deposit Account No. 11-1145.

Wherefore, a favorable action is earnestly solicited.

Respectfully submitted,

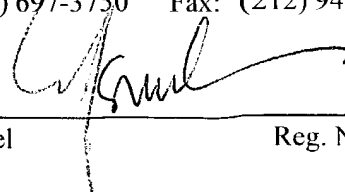
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